

North American Drought Monitor--- January 2005

Canada: Precipitation during January was normal to well above normal in most areas of BC, except the Skeena, Nechako and east Kootenay. Most regions had slightly below to well above normal precipitation since November 1, with the exception of Cranbrook in the Kootenays and Princeton in the Similkameen, which had well below normal precipitation. By February 1, more than half of the peak snowpack for the year had accumulated. If normal precipitation occurs from now until May 1, peak snowpack for the year in most regions will be adequate, because of existing snowpack. Exceptions are the South Coast, Vancouver Island, Lower Fraser, Similkameen, and possibly the south and west Okanagan and southern Kootenays. The South Coast, Vancouver Island and Lower Fraser Valley have record low snow packs ranking from 11-40% of normal. These areas may have low flows next summer unless the remaining snow accumulations and spring precipitation are at least average. Only the Peace, North Thompson, and Upper Fraser had above-normal snowpacks.

Snowpack measurements from the eastern Rockies of Alberta ranged from below average to average for this time of year. Natural runoff volumes for the period between March and September 2005 were forecast to be average for the Bow, Red Deer and North Saskatchewan River basins and below average for the Milk River basin. As a result of early snowmelt runoff from the mountain snowpack in the Oldman River basin, reservoir levels in the basin were above average; however, natural runoff volumes for the March to September 2005 period were forecast to be below to much below average. Snow accumulation as of February 1 normally accounts for nearly two-thirds of the season's total.

Precipitation accumulations since September 1 were below average to much below average (below the 20th percentile) in southern Alberta, parts of southern agricultural regions of Saskatchewan, and the northwest agricultural region of Manitoba, a region that has been identified as abnormally dry on the NADM map. Accumulations were near or above average in most central and northern regions of the Prairie provinces. Although conditions are improving, the northern Prairie provinces remain abnormally dry (D0) and in a moderate drought condition in the Fort Nelson area because of a previous long-term moisture deficit.

Most areas of Ontario and Quebec received near- or above-average precipitation for the period September 1, 2004, to January 31, 2005. Most streams in Ontario have been flowing at average or above-average levels. Precipitation in the Saguenay basin of Quebec has been below average.

Precipitation in southern New Brunswick was half of average during the month of January. Precipitation accumulations were near 65 percent of average for the period September 1, 2004, to January 31, 2005. There is still ample time for over-winter accumulations to return to near average; therefore the region remains classified as abnormally dry (D0).

Precipitation was average or above average in the territories during the period September 1, 2004, to January 31, 2005.

United States: January looked a good deal like December across the western United States, with warm temperatures and wet conditions occurring over most of the southern half of the West and warm and dry conditions across the Pacific Northwest. This persistent pattern has led to improvement in some areas and deterioration in others since December. In a marked case of the haves and have-nots, southern California and the Southwest saw 200-300%, or more, of their normal amount of precipitation during the month while much of the Pacific Northwest, Idaho, Montana and north-central Wyoming only received 50% (and much less in many locations) of normal.

Water year (October 1 to present) snow water equivalent (SWE) readings of 150-200%, or more, are common across the higher elevations in California, Nevada, Utah, Arizona, northern New Mexico and southwestern Colorado. In contrast, SWE values in the northern half of the West are dismal, with the majority of basins reporting 50% of average, or worse, across northern Wyoming, Montana, Idaho, Oregon and Washington. Things are particularly bad in northern Oregon and western Washington where SWE readings were just 12-32% of average at the end of the month. Consequently, with half the snow season on the books, drought has moved across most of the Pacific Northwest with the introduction of moderate drought (D1) over the Cascades.

Although long-term deficits (24 to 60 months) remain, the heavy rains and snows that have routinely pounded southern California and the Southwest have led to improvements in both the short- and long-term drought picture. This has led to a slow and continuous improvement in the region's drought situation, with an elimination of drought conditions in all but extreme northeast California. In addition, Nevada, Utah and Arizona have also seen major reductions in their severe (D2) and extreme (D3) drought areas since December.

Mexico: The National Meteorological Service (SMN) reported an areal precipitation average rainfall of 98% of normal across the country for January. However, most of that precipitation was concentrated over only 26% of the country, leaving 74% of the country's lands drier than normal. In January, the primary focus for rainfall was the northwest, where a series of storms originating near Hawaii favored heavy rainfalls across the Baja California peninsula, Sonora, Chihuahua and Coahuila. The active period during the first days of the month helped to push the monthly rainfall totals to 200% of normal in wide sections of northwest Mexico, where a local maximum of 152mm in 24 hours was reported in Sonora on January 3, while flooding associated with the same event affected the city of Tijuana. In contrast, southeastern México (Veracruz, Tabasco, northern Oaxaca and Chiapas, as well as portions of the Yucatan peninsula) has experienced below-normal precipitation since July 2004, and in some areas even longer periods (see 9- and 12-month SPI maps). This dry pattern over southeastern Mexico is common during the development of an El Niño event.

January rainfalls in northwestern Mexico allowed for a northward retreat of D1 and D0 conditions in the northern part of Baja California and northeastern Sonora, as well as along the border between Sonora and Chihuahua. In western Mexico, abnormally dry conditions expanded northward over Nayarit. The D1 area in southeastern Mexico expanded over northern Oaxaca, Chiapas and Campeche, while D0 conditions were extended over the entire Yucatan State. The conditions described above are well depicted on the soil moisture analysis computed by NOAA's Climate Prediction Center, indicating drier than normal soils from southern Sinaloa southward into Michoacan and

along the southern Gulf of Mexico coastal plain into the Yucatan Peninsula. The persistence of long-term dry conditions in southeastern Mexico has raised concerns about an early start to the fire season; pasture fires have been reported in Oaxaca and Chiapas, and the SMN recently reported that the states of Yucatan and Campeche have a high risk of fire.